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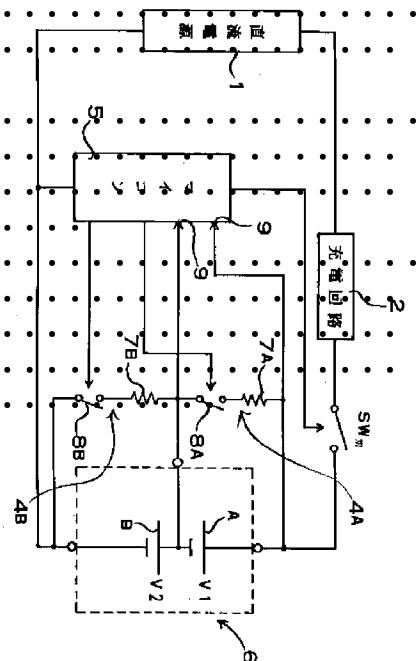
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(54)【発明の名称】 電池の充電方法



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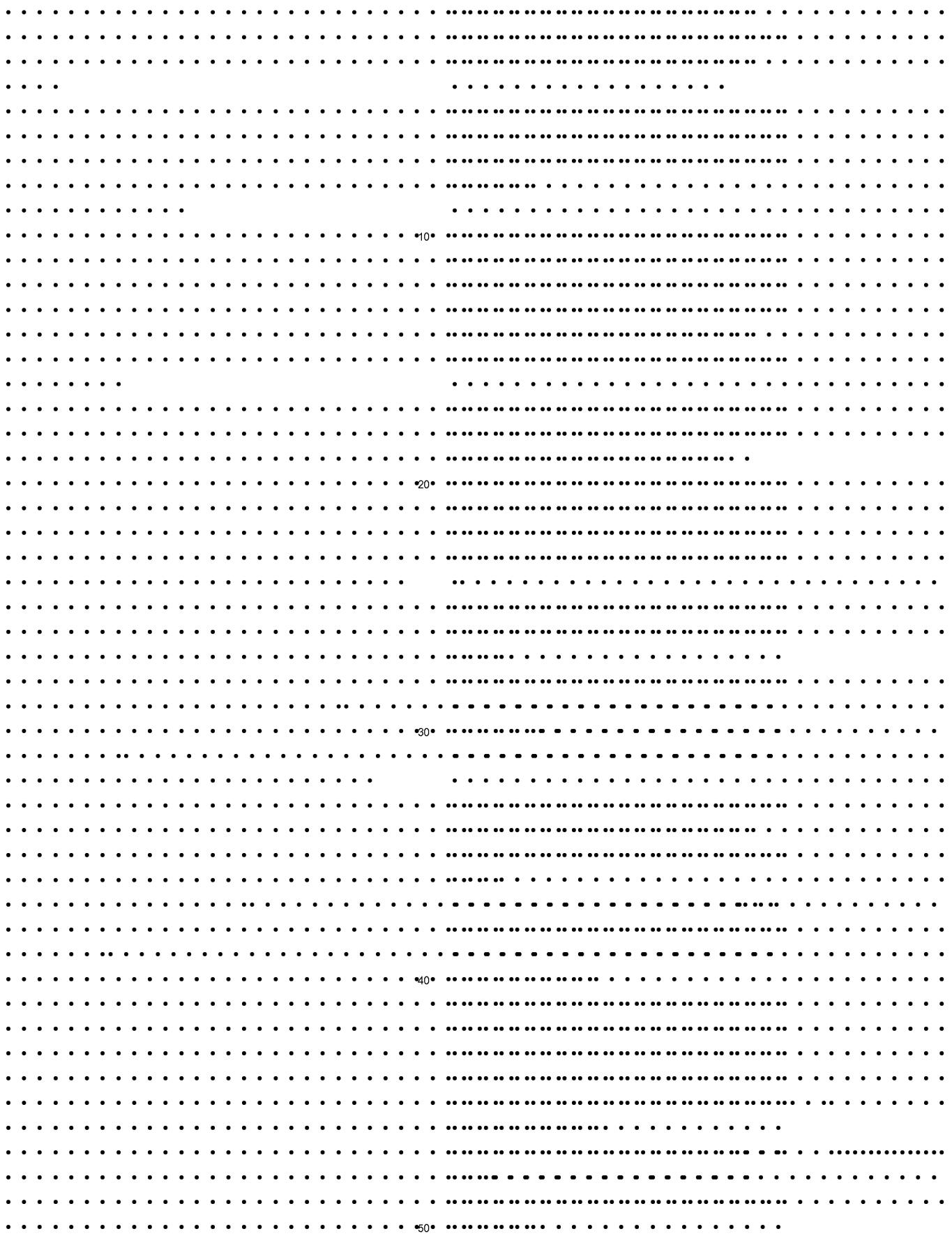
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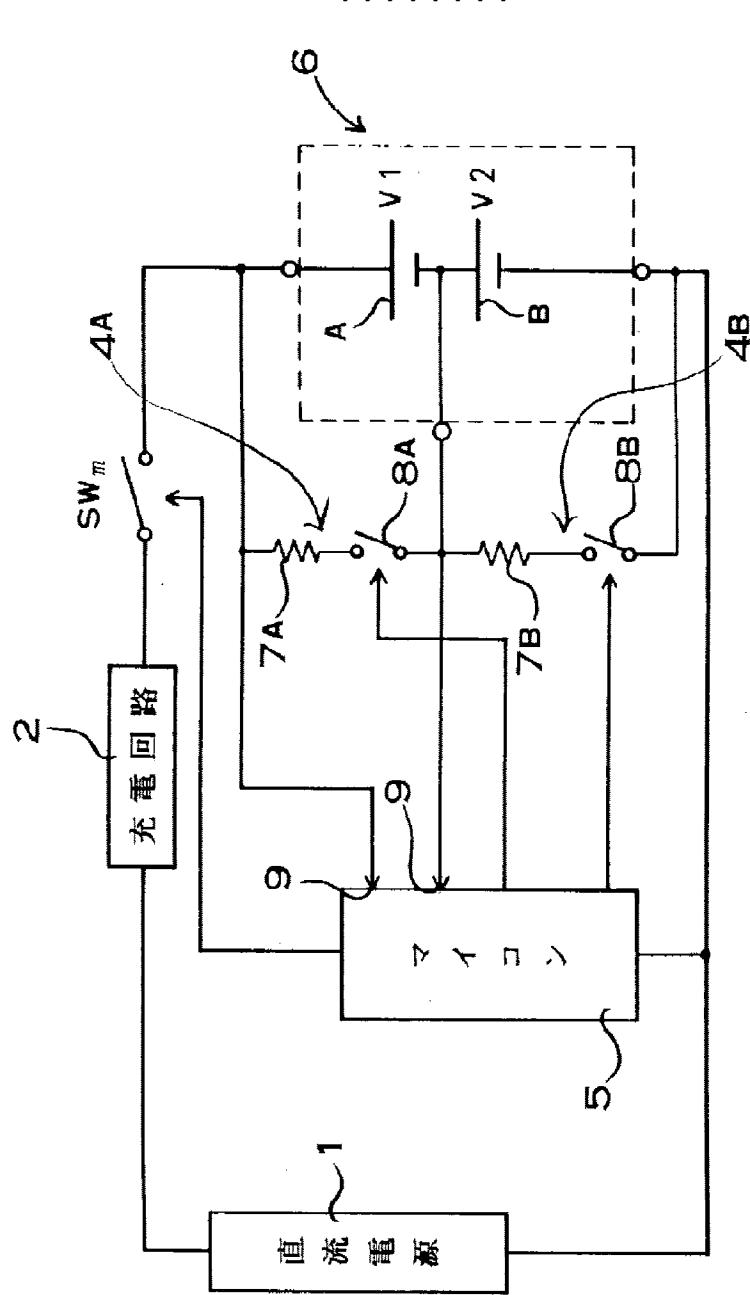
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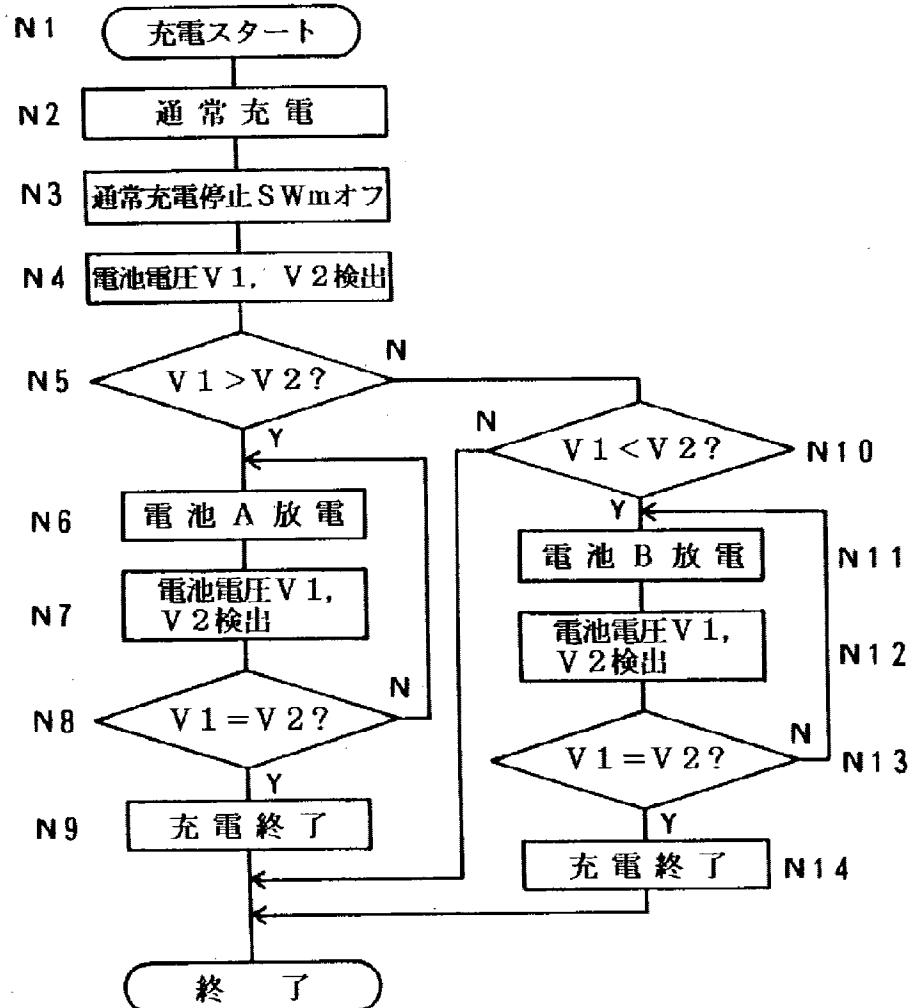
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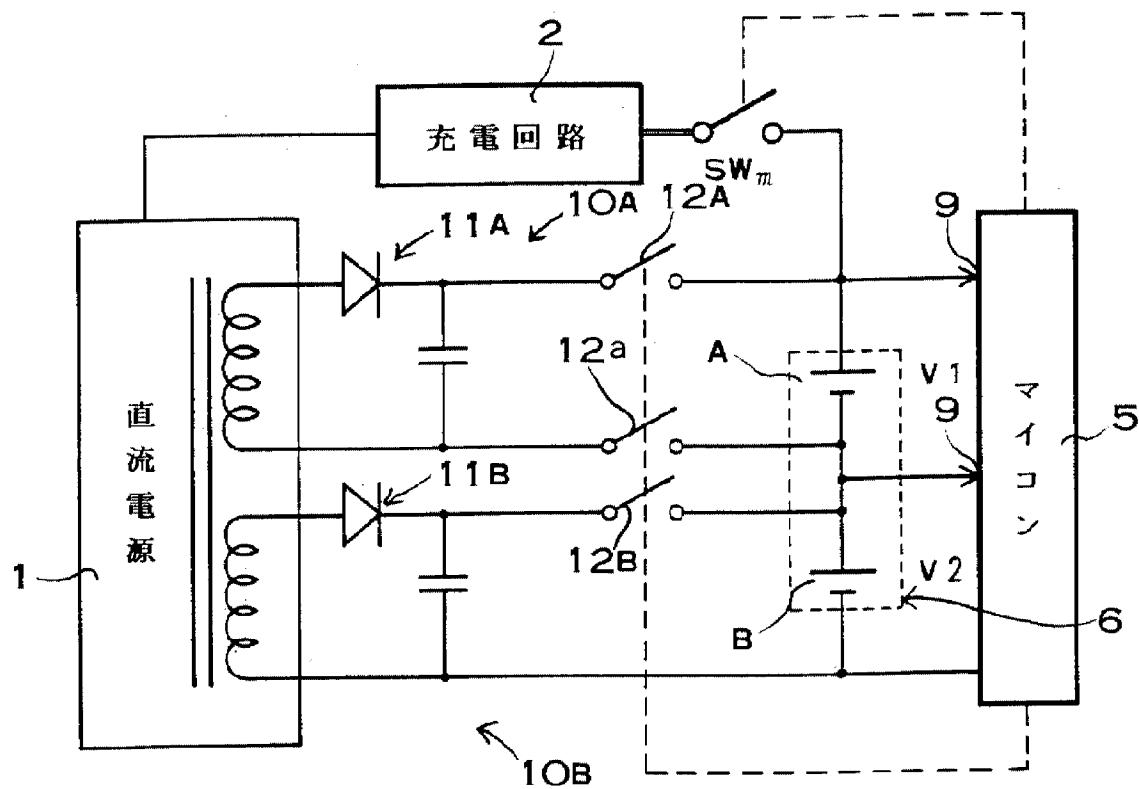
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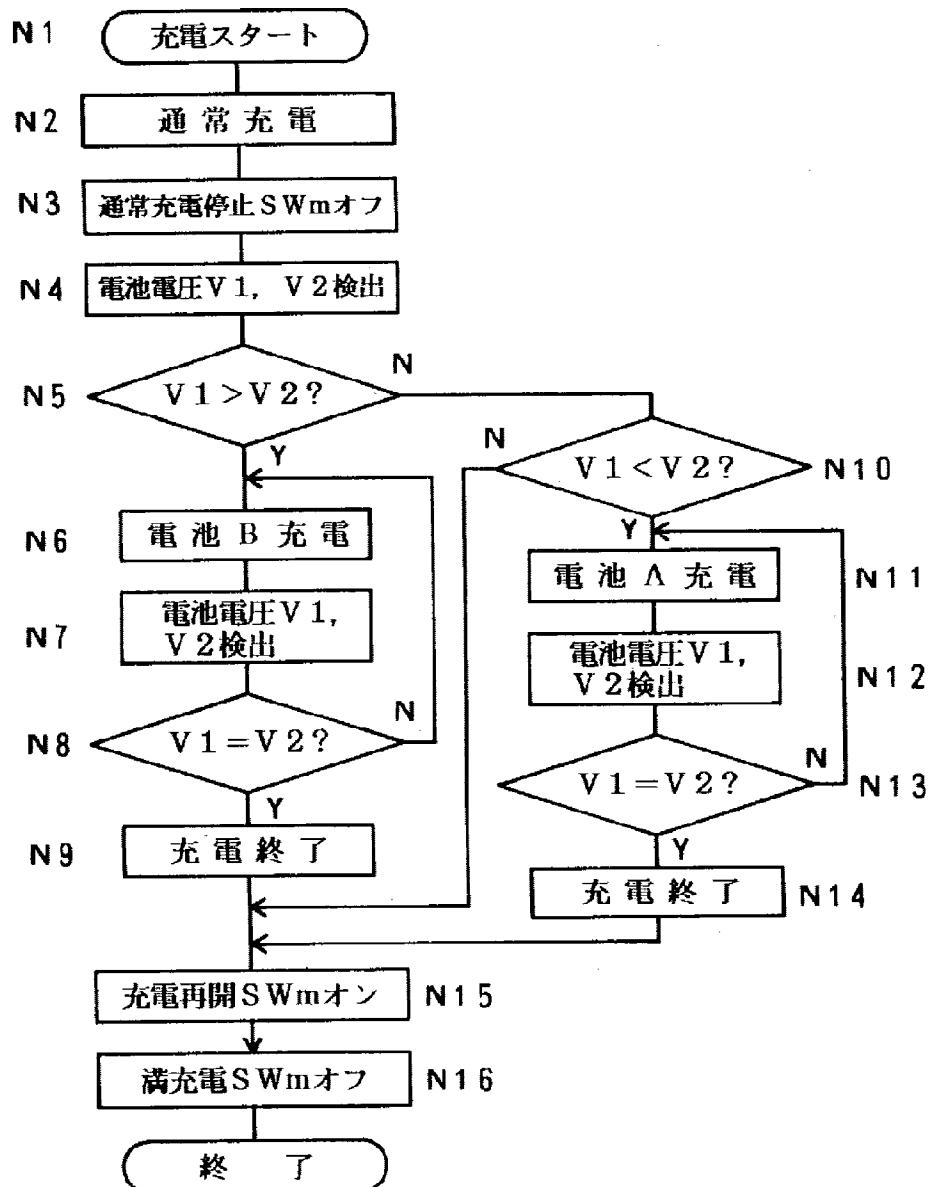
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PATENT ABSTRACTS OF JAPAN

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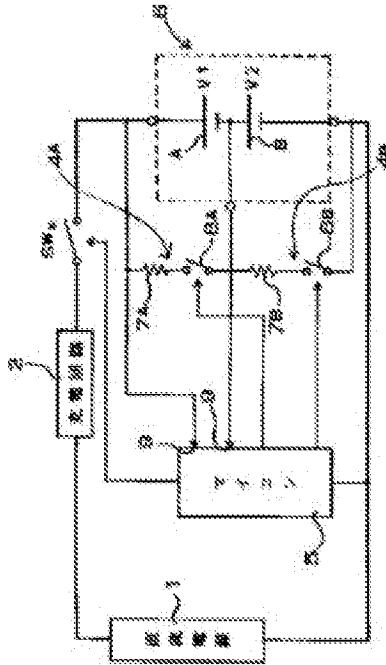
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(21)Application number : **05-036702** (71)Applicant : **SANYO ELECTRIC CO LTD**

(22)Date of filing : **25.02.1993** (72)Inventor : **TAMAI MIKUTAKA**

(54) CHARGING METHOD FOR BATTERY



(57)Abstract:

PURPOSE: To prevent the deterioration in batteries when a plurality of batteries are connected in series and charged, by providing uniform voltages in a balanced charging and discharging way, in which a low-voltage battery is charged, while a high-voltage battery is discharged to diminish the difference between battery voltages.

CONSTITUTION: A battery pack 6 made up of a plurality of batteries connected in series is charged by a DC power supply 1 through a charging circuit 2. When a microcomputer 5 detects a fully charged state, a switch SWm is opened. The microcomputer 5 monitors the

voltage of each battery (A) or (B), and when a voltage of the battery (A) or (B) is over a given level, a switch 8A or 8B is turned off to discharge the battery (A) or (B) through a resistor 7A or 7B. In this case, the overvoltage battery (A) or (B) may be stopped from charging for a while and the lower-voltage battery may be only charged. Then, each battery in the battery pack 6 has a uniform voltage charged or discharged in a balanced way, and this balanced charging is preferably carried out before a fully charged state. Consequently, a cyclic life is increased so that the battery has a longer life.